

Notice of Allowability

Application No.

10/774,960

Examiner

Mark Consilvio

Applicant(s)

NAKANISHI ET AL.

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 17-25.
3. ☒ The drawings filed on 2/9/2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/593,239.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>2/9/2004</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 8/18/2004 and 1/7/2005 are in compliance with the provisions of 37 CFR 1.97.. Accordingly, the information disclosure statement is being considered by the examiner.

Allowable Subject Matter

Claims 17-25 are allowed.

The following is an examiner's statement of reasons for allowance: With respect to claims 17 and 20, though the prior art discloses an optical pickup that optically reads information that has been recorded on an optical recording medium, comprising: laser beam exposing means which includes a light source that emits a laser beam and focuses the laser beam on an information recording surface of the optical recording medium; a first polarizing beam splitter for splitting light reflected back off the information recording surface into first polarized light and second polarized light that is polarized in a different direction to the first polarized light; and photoelectric conversion means for receiving the first polarized light and the second polarized light and converting the first polarized light and the second polarized light into electrical signals,

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the prior art of record fails to teach or suggest the aforementioned combination further comprising the first polarizing beam splitter including: a first substrate with a first main surface and a second main surface, a refractive index of the substrate being equal to n where n is a value greater than one; a first diffractive optical element pattern that is formed on part of the first main surface with a pattern pitch Λ such that $\lambda/n < \Lambda \leq \lambda$, where λ is a wavelength of the reflected light; and a second diffractive optical element pattern that is formed on one of the first main surface and the second main surface at a predetermined position on an optical path that diffracted light produced by the first diffractive optical element pattern takes within the first substrate.

With respect to claim 21, though the prior art of record discloses an optical pick-up assembly including a light source, conversion unit, and transparent substrate, the prior art of record fails to teach or suggest the aforementioned combination further comprising first polarizing diffractive optical element pattern formed in the first main surface with a pattern pitch no greater than a wavelength λ , of incident light to provide a first production of zero-order diffracted light and a first order diffracted light; and a second diffractive optical element pattern formed in the second main surface and laterally offset from the first polarizing diffractive optical element to receive only the first production of first order diffracted light, the second diffractive optical element has a pattern pitch greater than the wavelength λ , of incident light to provide a second production of a pair of polarized first order diffracted light rays, one of which will be transmitted through the first main surface and the other which will be internally reflected between the first and second main surfaces.

Claims 18, 19 and 22-25 are allowed because of their dependency on claims 17 and 21.

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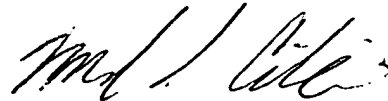
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Consilvio whose telephone number is (571) 272-2453. The examiner can normally be reached on Monday thru Friday, 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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